Science Overview

STRIDE Curriculum

Intent and Design – What are we trying to achieve?

At Seagrave Village Primary school we use the Twinkl scheme to support the teaching and learning of Science. This scheme has been designed in accordance with The Early Years Foundation Stage and National Curriculum. It embeds the working scientifically requirements into each topic so that in addition to the core knowledge and vocabulary, children are developing skills of observation, investigation and fair testing, classification and data handling.

Speaking We Speak with core vocabulary, confidence and care	**Thinking** We think deeply and widely using our head and our heart	**Reading** We read for knowledge and pleasure	**Inspiring Attitudes** Our learning behaviours are excellent	**Determined Ambition** We achieve our goals	**Everyone** We include and value everyone
Specific key vocabulary is taught in each year group. Teachers use the vocabulary progress grid to teach specific vocabulary to the pupils in their class. Key vocabulary for each unit is displayed in the classroom. Teachers use stem sentences to scaffold pupils ideas and improve understanding of scientific concepts.	Pupils are encouraged to think deeply in their science lessons. We aim to give them a sense of excitement and curiosity around science, developing learners who are able to question, investigate and come to their own conclusions about the world around them. We develop our children's ability to empathize with the world around them, encouraging them to care for their environment and the plants and animals within it. We will challenge them to consider the materials that we use in everyday life, the sustainability of these and the impact they have on the habitats around them.	Reading is an integral part of our science curriculum. Reading comprehension helps students understand scientific concepts. We aim to foster a thirst for knowledge and children who read to "find out more". Good reading skills can lead to higher scientific achievement. It expands students' background knowledge and academic vocabulary, while emphasizing practices such as reasoning, reading for evidence, discussion, and writing.	In our science lessons there is a culture of resilience and respect. Pupils are encouraged to reflect, question and debate their theories. They learn to listen to other viewpoints and reflect on their own pre-conceived ideas. They use the Seagrave steps in their science lessons - Collaborating with peers Thinking deeply about the question. Reflecting upon prior learning to help current learning and making predictions.	Pupils learn new skills which build on learning in previous years. The curriculum has learning intent for each unit and lesson, articulating clear targets to each pupil. These enable pupils to access lessons at a level that is appropriate for them. Lessons are structured to give all pupils opportunities to recap on previous learning. Units and lessons are sequenced so that new knowledge is built upon prior learning. Knowledge is built upon gradually and cumulatively, We aim for all pupils to leave Seagrave with the desire to never stop questioning.	In science we all start from the same starting point and work on the same learning hook. We strongly believe that the children will take the learning forward in their own way and at their own pace. Staff are skilled in questioning children at a level that is appropriate to their scientific understanding. Children feel a sense of achievement whilst also being stretched to question and deepen their current understanding. We embrace thoughts and ideas children bring to our science lesson and value everyone's contributions.

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Implementation – How will we arrange learning? Progression from EYFS to Year 6

Level Expected at the End of EYFS

We have selected the most relevant statements from Development Matters age ranges for Three and Four-Year-Olds and Reception as well as highlighting the statements within the ELGs which feed into the programme of study for Science.

Science	
Communication and Language	• Understand 'why' questions, like: "Why do you think the caterpillar got so fat?"
Personal, Social and Emotional Development	• Make healthy choices about food, drink, activity and toothbrushing.
Understanding the World	• Use all their senses in hands-on exploration of natural materials. • Explore collections of materials with similar and/or different properties. • Talk about what they see, using a wide vocabulary. • Begin to make sense of their own life-story and family's history. • Explore how things work. • Plant seeds and care for growing plants. • Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things. • Explore and talk about different forces they can feel. • Talk about the differences between materials and changes they notice.

Reception	Communication and Language		• Learn new vocabulary. • Ask questions to find out more and to check what has been said to them. • Articulate their ideas and thoughts in well-formed sentences. • Describe events in some detail. • Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. • Use new vocabulary in different contexts.

	Personal, Social and Emotional Development		• Know and talk about the different factors that support their overall health and wellbeing:
			  ○ regular physical activity
			  ○ healthy eating
			  ○ toothbrushing
			  ○ sensible amounts of 'screen time'
			  ○ having a good sleep routine
			  ○ being a safe pedestrian

	Understanding the World		• Explore the natural world around them. • Describe what they see, hear and feel while they are outside. • Recognise some environments that are different to the one in which they live. • Understand the effect of changing seasons on the natural world around them.
ELG	Communication and Language	Listening, Attention and Understanding	• Make comments about what they have heard and ask questions to clarify their understanding.
	Personal, Social and Emotional Development	Managing Self	• Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.
	Understanding the World	The Natural World	• Explore the natural world around them, making observations and drawing pictures of animals and plants. • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Watermead class (KS1)

Year A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit title	Animals including Humans	Living things and their habitats	Everyday materials	Seasonal changes (Spring and Summer)	Plants	Scientists And Inventors
Year B	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Unit title	Animals including humans	Seasonal changes (Autumn	Uses of everyday materials	Plants	Bio-diversity - minibeasts	Scientists And Inventors

		and Winter)				

Snibston class (LKS2)

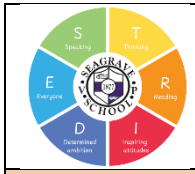
Year A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit title	Animals including humans (teeth)	Rocks	Forces and magnets	Plants	Light	Reduce, re-use, Recycle Scientists and inventors
Year B	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Living things	Animals includin	Electricity		Sound	Reduce, re-use, Recycle

Unit title	and their habitats	g humans		States of matter		Scientists and inventors

Prestwold class (UKS2)

Year A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit title	Earth and space	Living things and their habitats	Scientists and inventors	Properties and changes of materials	Forces	Animals including humans
Year B	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
			Light	Electricity		

Unit title	Living things and their habitats	Animals including humans			Evolution and inheritance	Scientists and inventors



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Impact – how will we achieve our aims?

Work sample analysis	What do our books show?
Lesson observations	What is the quality of teaching, learning and use of assessment in lessons? How good is questioning in lessons?
Surveys	What do teachers and families say about this subject?
Interviews	What do the children say about their learning in this subject? What do the staff say about teaching this subject?
Data analysis	What does the data tell us?

using Target Tracker	
Coaching and Mentoring	What is the impact of coaching and mentoring? Support for colleagues in this subject?
Training	What is the impact of the training undertaken?
Learning Environment	How does the learning environment support learning in this subject area?